

UNIVERSITY *of* ALBERTA

CHEMICAL ENGINEERS

TURNER VALLEY FLIGHT

— MAY 1948 —

COURTESY OF TRANS-CANADA AIR LINES



BOOKLET COMPLIMENTS OF :

ROYALITE OIL CO. LTD.

AND

IMPERIAL OIL LIMITED

CALGARY



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## DEVELOPMENT OF THE TURNER VALLEY OIL AND GAS FIELD

Oil was first discovered in the Turner Valley area in 1913 when the Calgary Petroleum Products #1 well (later Royalite #1) encountered a small quantity of high grade crude oil at depths ranging from 1,557 feet to 3,825 feet. This well was located near a gas seepage on the banks of the Sheep River in the central part of the valley, and the discovery precipitated a wild boom which ended with the beginning of the Great War in 1914. Not much drilling was done in the years from 1914 to 1922, and only a relatively small amount of oil was obtained.

In 1922, the discovery well of naphtha production, Royalite #4, was started, and, although some oil and gas were obtained in the shallow sands, the well was finally drilled to a depth of 3,740 feet, where it blew in spectacularly on October 17th, 1924, and immediately caught fire. After the well was brought under control it started to produce approximately 600 barrels per day of naphtha and 20,000,000 cubic feet of gas per day. This strike was particularly fortunate not only from the oil standpoint but also from the gas, as the gas reserves for the cities of Calgary and Lethbridge had been declining rapidly. Thus, this well was also the discovery well of large gas reserves for the above cities and intervening towns. The well produced steadily until 1929, after which mechanical difficulties caused the well to produce erratically for several years. It was finally abandoned in 1934 due to these mechanical

difficulties, after it had produced approximately 911,000 barrels of naphtha.

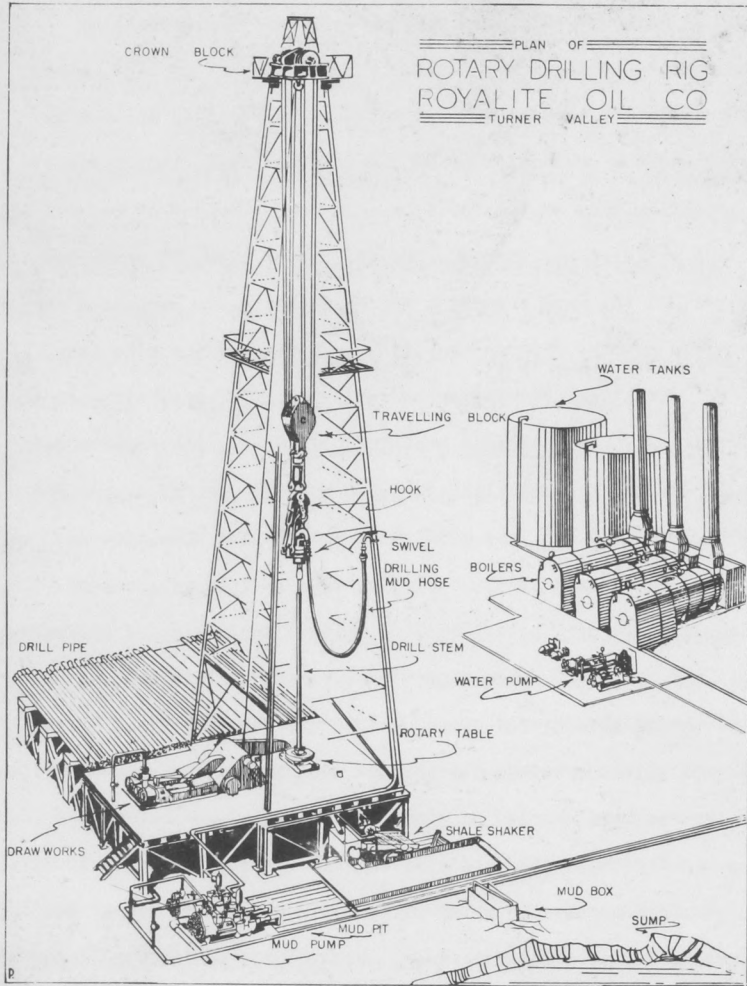
Although this discovery was of great importance, no intense activity was started until the latter part of 1928, when another well 1 1/4 miles from Royalite #4 was drilled in with an initial naphtha production of 500 barrels per day. This increased the potentialities of the field, and in 1929 a period of considerable drilling activity was started. By the end of 1930, 75 wells had been drilled and were producing approximately 4,000 barrels a day of high grade naphtha from an area 11 miles long and one mile wide.

Drilling activity decreased after 1930, and, although the productive area was extended another 2 1/2 miles, the naphtha production dropped to approximately 1,500 barrels per day at the end of 1935. However, in June 1936 the Turner Valley Royalties well was completed at a depth of 6,828 feet as the first large producer of crude oil in Turner Valley, with an initial production of 850 barrels of oil and 2,000,000 cubic feet of gas per day. This well demonstrated the existence of a crude oil reserve down the flank of the structure which contained the naphtha and gas, and an active drilling campaign has been carried on since that time.

The crude oil producing area is now approximately 21 miles long and from one to two miles wide, while the total area of oil and gas producing acreage occupies about 26,000 acres. The depth of the crude oil wells varies from 6,000 feet to 9,500 feet, and all the drilling in recent years has been done by the rotary method.

CROWN BLOCK

PLAN OF  
ROTARY DRILLING RIG  
ROYALITE OIL CO  
TURNER VALLEY



# GEOLOGICAL MARKERS TURNER VALLEY

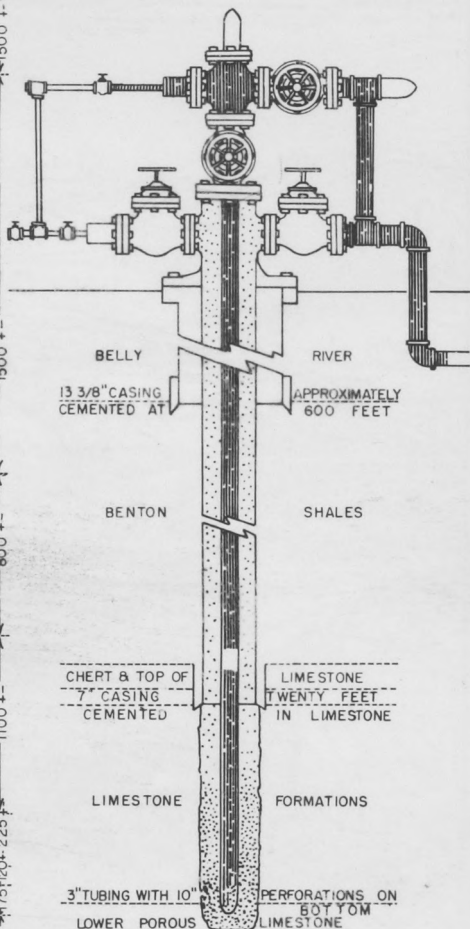
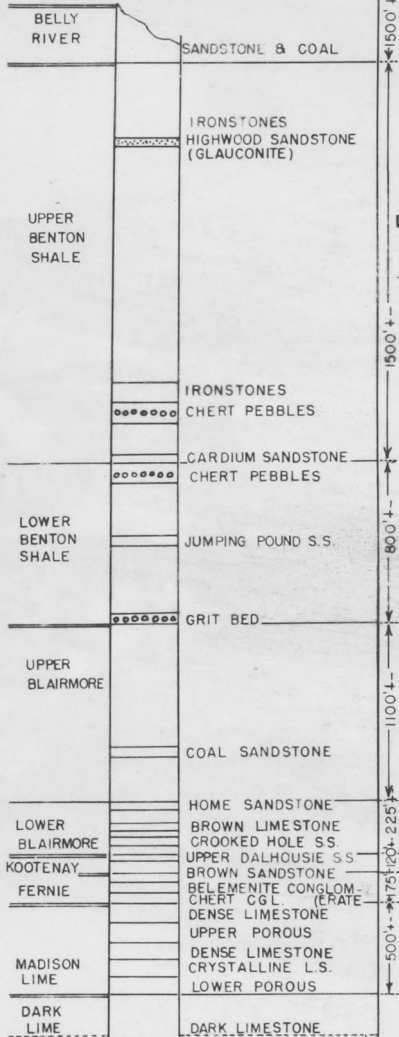
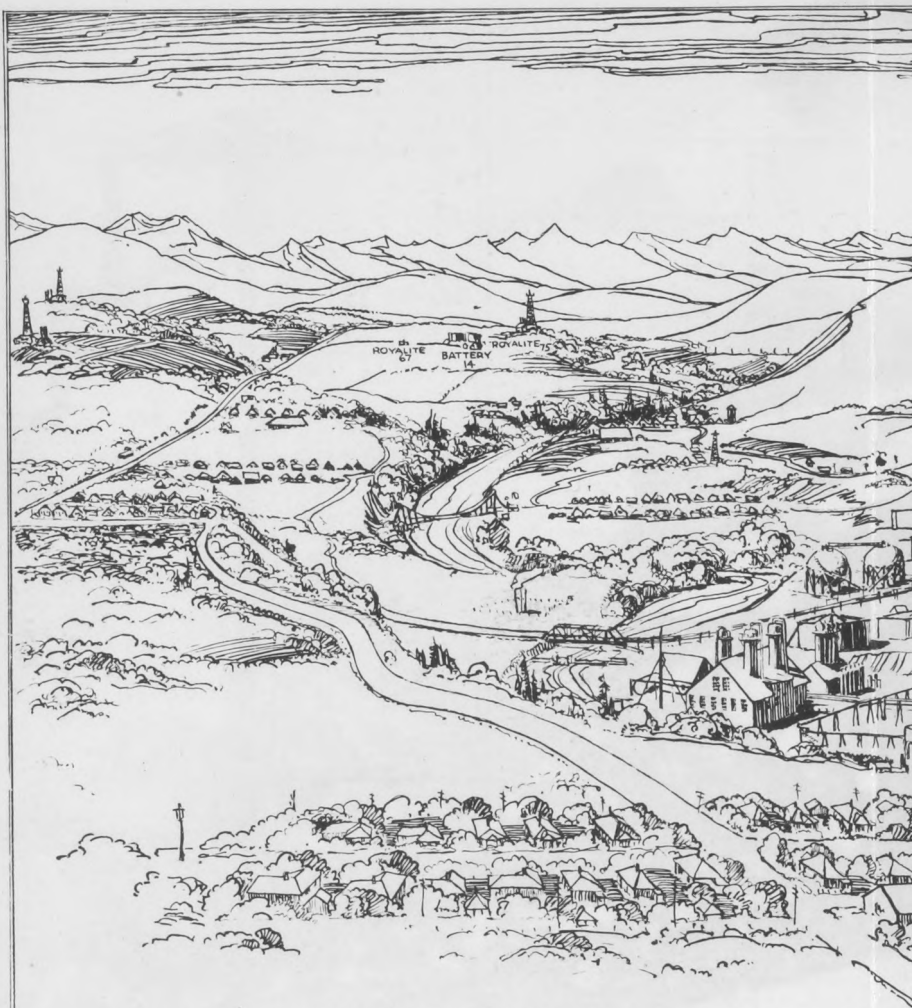


DIAGRAM OF  
PRODUCING WELL  
SHOWING  
CASING & TUBING  
PROGRAM

CRUDE WELL DEPTHS VARY FROM 6000 TO 9600' DEPENDING UPON STRUCTURAL CONDITIONS.



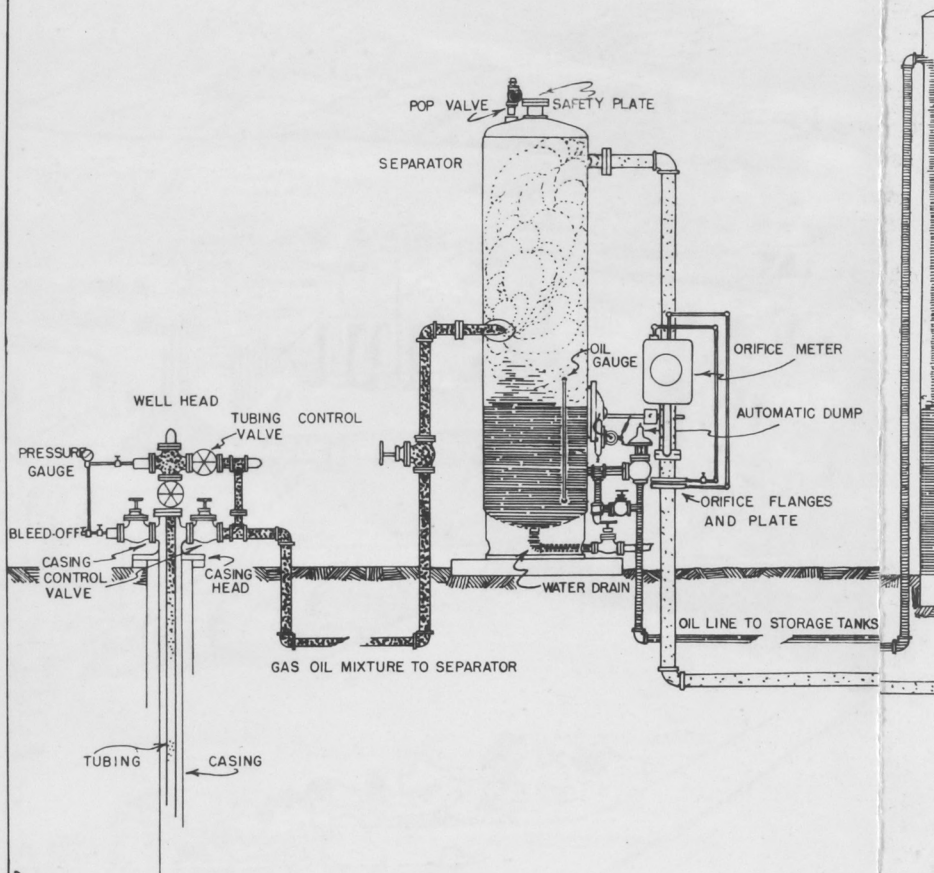


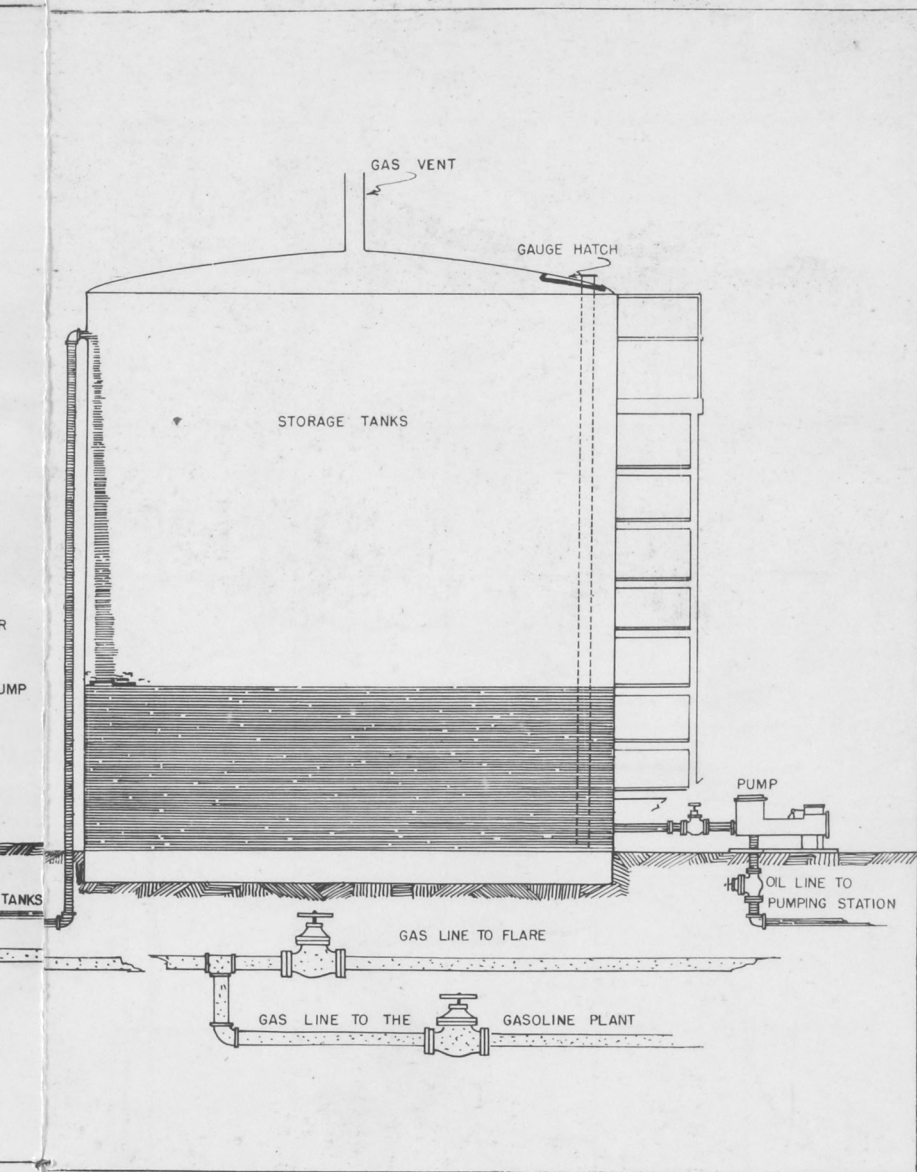
===== PANORAMIC VIEW =====  
OF  
ROYALITE PLANT & TURNER VALLEY  
===== SHEEP CREEK AREA =====

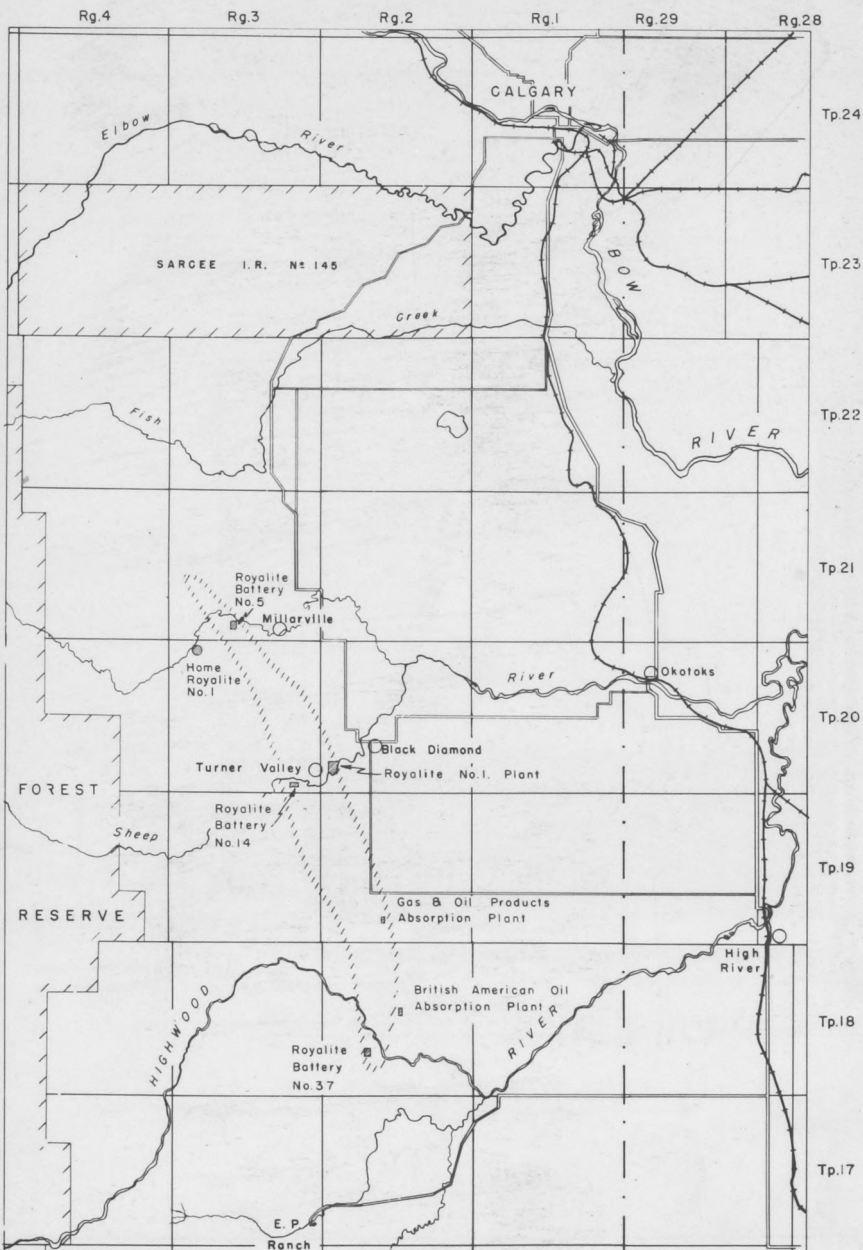




# TURNER VALLEY CRUDE OIL WELL & PRODUCTION BATTERY







# Memorandum









